

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

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preliminary examination report

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Applicant's or agent's file reference  
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Nederlandsch Octrooibureau

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Paraaf Bewerker

NOTIFICATION OF TRANSMITTAL OF  
THE INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

(PCT Rule 71.1)

AME

Date of mailing  
(day/month/year) 02.03.2005

## IMPORTANT NOTIFICATION

International application No.  
PCT/NL 03/00922

International filing date (day/month/year)  
23.12.2003

Priority date (day/month/year)  
23.12.2002

Applicant  
FUJI PHOTO FILM B.V. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/I/B/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

The applicant's attention is drawn to Article 33(5), which provides that the criteria of novelty, inventive step and industrial applicability described in Article 33(2) to (4) merely serve the purposes of international preliminary examination and that "any Contracting State may apply additional or different criteria for the purposes of deciding whether, in that State, the claimed inventions is patentable or not" (see also Article 27(5)). Such additional criteria may relate, for example, to exemptions from patentability, requirements for enabling disclosure, clarity and support for the claims.

Name and mailing address of the international  
preliminary examining authority:



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**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**  
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P205623PCT SMO	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/NL 03/00922	International filing date (day/month/year) 23.12.2003	Priority date (day/month/year) 23.12.2002
International Patent Classification (IPC) or both national classification and IPC C12N5/00		
Applicant FUJI PHOTO FILM B.V. et al.		

<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the opinion</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>

Date of submission of the demand 22.07.2004	Date of completion of this report 02.03.2005
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Grötzinger, T Telephone No. +49 89 2399-7166

INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT

International application No. PCT/NL 03/00922

I. Basis of the report

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-16 as originally filed

Claims, Numbers

1-11 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- the description, pages:
- the claims, Nos.:
- the drawings, sheets:

5.  This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims	8,11
	No: Claims	1-7, 9, 10
Inventive step (IS)	Yes: Claims	-
	No: Claims	8, 11
Industrial applicability (IA)	Yes: Claims	1-11
	No: Claims	-

**2. Citations and explanations**

**see separate sheet**

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EXAMINATION REPORT - SEPARATE SHEET

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Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

Reference is made to the following documents:

- D1: WO91/07485
- D2: SIGMA ProductInformation Sheet
- D3: US4,994,388
- D4: WO01/34646

**1. Novelty (Article 33(2) PCT)**

Claims 1 to 7, 9, and 10 are not novel in accordance with Article 33(2) PCT.

**1.1 Claims 1 to 6**

Claim 1 relates to a process for preparing coated cell culture microcarriers comprising the use of gelatine "having a molecular weight of about 40 kDa to about 200 kDa". WO91/07485 (D1) discloses a process in which polystyrene beads are coated with gelatin (Type A, 300 Bloom from Sigma) (page 17, last paragraph). It is common general knowledge that gelatin with a gel strength of 300 Bloom corresponds to a protein mixture with an average MW of 50,000 to 100,000 (see, e.g., page 3 of SIGMA ProductInformation Sheet (D2) that can be found under <http://www.sigmaldrich.com/cgi-bin/hsrun/Distributed/HahtShop/HAHTpage/frmCatalogSearchPost?Brand=SIGMA&ProdNo=G2500>; a copy thereof is enclosed for the Applicant's information). Thus, it appears as if WO91/07485 (D1) discloses a process as claimed in claims 1, 4, and 5.

According to WO91/07485 (D1), a crosslinking agent may be furthermore used to immobilize the cell adhesion proteins onto the beads (page 18, second paragraph). The beads, as mentioned above, are made out of polystyrene which is non-porous (page 9, last sentence) but the use of (porous) dextran is also anticipated (e.g., page 9, penultimate sentence, or page 11, bottom of first paragraph). Hence, WO91/07485 (D1) is also novelty-destroying for claims 2, 3, and 6.

**1.2 Claims 7, 9, and 10**

Regarding claims 7, 9, and 10, it cannot be excluded at the moment that the gelatin used

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in WO91/07485 (D1) inherently also shows the features disclosed in claims 7, 9, and 10. Thus, WO91/07485 (D1) is also detrimental for novelty of those claims.

1.3 Claims 8 and 11 appear to be novel over the cited prior art.

**2. Inventive Step (Article 33(3) PCT)**

Claims 8 and 11 are not inventive as required by Article 33(3) PCT.

**2.1 Claim 8**

Closest prior art: US4,994,388 (D3) may be regarded as closest prior art. This document discloses a process for preparing microcarriers coated with collagen, wherein the collagen is obtained from natural sources (column 3, lines 52 to 56, and column 6, lines 28 to 33).

Technical problem: According to the Applicant, it was the object of the invention to provide processes for coating microcarriers with gelatine such that the particles do not clump afterwards in cell cultures (page 3, third paragraph). This is in agreement with the technical problem that can be seen in view of the closest prior art US4,994,388 (D3), namely the provision of processes yielding particles of superior quality.

Solution: According to the application, this problem is solved by using recombinant gelatin instead of gelatin from natural sources.

This solution, however, cannot be regarded as involving an inventive step in light of WO01/34646 (D4). This document discloses recombinant gelatin and proposes to use the same for coating purposes (page 59, lines 25 to 28; page 71, lines 33 to 39; page 72, lines 12 to 16). Moreover, it is discussed in detail which advantages the recombinant gelatin offers. In particular, it is said that gelatins with specific physico-chemical characteristics can be produced. These include the isoelectric profile, a specific molecular weight or specific ranges thereof, and the degree of hydroxylation, (page 28, lines 31 to 36; page 31, lines 27 to 39; page 32, lines 5 to 11; page 34, lines 21 to 24). Thus, it appears as if claim 7 represents an obvious solution at which the person skilled in the art would arrive without further ado when trying to amend production processes in order to improve the features of microcarriers.

**2.2 Claim 11**

As regards claim 11, it appears as if the size of the beads indicated in the claim is a

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standard range that cannot establish inventive step (see US4,994,388 (D3), column 3, lines 57 to 60).